

Distributed I/O

Advantys STB

The *open* device
integration I/O system



Advantys STB

Distributed I/O solution

Advantys STB *benefits at-a-glance*



Smart

Built-in intelligence and thoughtful, comprehensive system software make Advantys easy to design, configure, and maintain.



Flexible

The granular, modular design and wide range of I/O modules, network interfaces, and options let you design a system that is exactly right for your needs.



Open

Advantys STB can interface with most major fieldbuses, and the CANopen non-proprietary bus makes Advantys the perfect device integration I/O solution.



Simple

Removable, snap-in wiring connectors speed up and simplify commissioning, and removable memory cards let you duplicate island bus configurations in seconds.



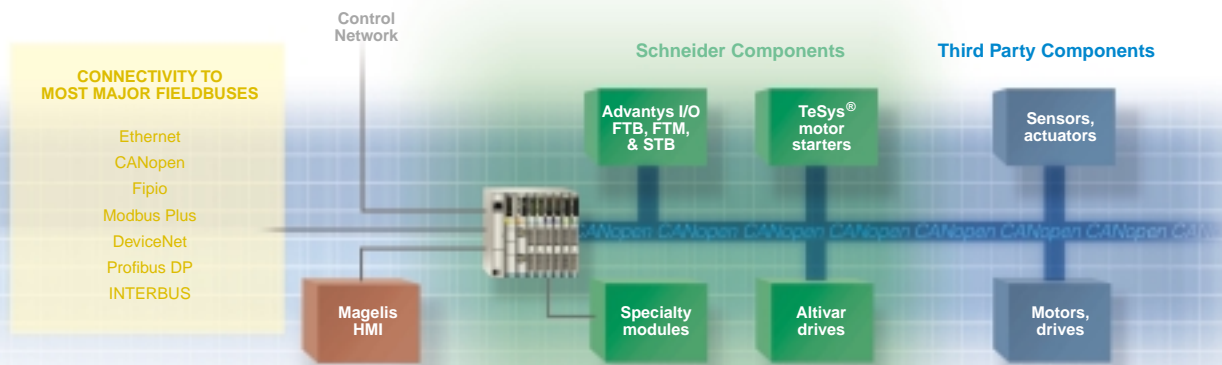
Welcome to the world
of Simply Smart* from
Telemecanique.

Advantys STB, like all Telemecanique brand products from Schneider Electric, is designed with advanced features and functions that make them more intelligent and capable, yet even easier and more intuitive to use.

Advantys STB is a highly modular I/O platform, wiring solution and power management system that delivers the most effective and targeted control available today. Right from the start you will discover the difference — configuration software that is clever and powerful, network adaptability and system flexibility that are nimble and easy to implement, and attention to detail that makes Advantys STB the Simply Smart solution for all your distributed I/O needs.

* Simply Smart: more ingenuity and intelligence for continually improving ease of use.

Simplified device integration



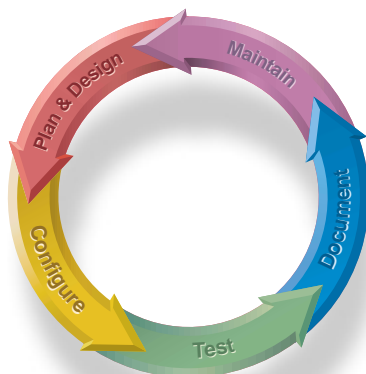
Advantys STB is the ideal device integration platform. It can be connected to many Schneider devices like Magelis HMI, TeSys motor starters, Altivar speed drives, or Advantys FTB and FTM IP67 I/O, as well as many third party devices.

- The open, plug-and-play architecture requires only a single fieldbus node to distribute I/O across an entire machine and is able to interface with any standard fieldbus.
- Separate power for input and output devices eliminates the need for extra terminals and protection devices.
- Advantys STB offers local reflex functionality for high-speed logic solving independent of the PLC master for improved system performance.

Intelligent system life cycle management:

Configuration software that does more than just design

Advantys STB configuration software does more than simply allow you to design a system... it is a powerful tool that assists you through every phase of the product life cycle, from product selection all the way to system maintenance and diagnostics.



- Plan and design your entire system, including networks and third party devices
- Configure your I/O groups simply by selecting modules directly from the STB catalog and dragging them into the graphical view editor
- Validate the overall system design and check power and configuration settings
- Test I/O characteristics in simulation mode to correct any errors before you go online
- Create documentation for future reference in your choice of .pdf or .rtf format
- Initiate system commissioning, even without a fieldbus master
- Perform ongoing system diagnostics and troubleshooting to maximize productivity

Advantys STB

Device integration made easy.

Open Connectivity to Most Major Fieldbuses

- CANopen
- DeviceNet
- Ethernet
- Fipio
- INTERBUS
- Modbus Plus
- Profibus DP

In addition, Advantys STB offers easy adaptation to add other fieldbus protocols.

Smart System Features

Get more value from your I/O solutions with these intelligent features.

- Hot swap capabilities that optimize productivity and minimize downtime by allowing you to change modules without shutting down your machine
- Choice of auto-configured or software configurable parameters
- Integrated diagnostics to keep your system operating at its optimum
- Simple device integration at the system bus level
- Remote real-time data access from anywhere in the world using a simple web browser and the Ethernet network interface module
- Local real-time data access using local HMI through any network interface module

Time-saving Wiring and I/O Features

Advanced functionality isn't enough if the I/O isn't easy to assemble and wire, so Advantys has incorporated several simple and ingenious ways to make things easy.

- I/O modules are simple to assemble and completely flexible in their placement
- They snap together and mount to DIN Rail without the use of special tools
- Removable spring or screw field wiring connectors are easy to wire and can be pre-wired to speed and facilitate installation
- I/O granularity of 2, 4, and 6 channels ensures that you only pay for the I/O you need, and nothing more
- Many Expert modules available to meet a variety of applications, such as motor starters and high density I/O
- 5-contact field power distribution provides separate power for input and output devices
- Auto addressing for simple, error-free setup
- Built-in over current protection that eliminates the cost of separate circuit protection
- Integrated LEDs provide real-time status of the module and I/O

Network Interface Modules (NIM)

Every island requires a network interface module (NIM) in the leftmost location of the primary segment. Physically, the NIM is the first module on the island bus. Functionally, it is the gateway to the island bus — all communications to and from the island bus pass through the NIM — allowing for data exchange, configuration services, and HMI operations. The NIM also has an integrated power supply that provides logic power to the island modules.

Every NIM has an embedded serial port for connection to low-cost HMI, and Advantys is the only distributed I/O platform that allows you to control and monitor I/O directly with any standard Modbus HMI device.

LED readouts provide instant system status

Power Distribution Modules

The Power Distribution Module distributes sensor power and actuator power to input and output modules in an island segment. It distributes field power independently over the island's sensor bus to the input modules and over the island's actuator bus to the output modules. It also isolates AC and DC voltage groups and eliminates the need for extra terminals or protection devices. If AC and DC I/O are both required in the same island, a second Power Distribution Module would be needed and all I/O of like voltage would be grouped together to the right of the corresponding power module.



Accepting Any CANopen Device*

By incorporating CANopen capability into our island bus, Advantys STB provides device integration with third party suppliers for applications requiring:

- pneumatics
- hydraulics
- encoders
- decoders
- barcode readers
- sensors
- drives
- actuators

For a list of commercially available CANopen nodes and products, see the CANopen product guide and product database at www.canopen.org

I/O Modules

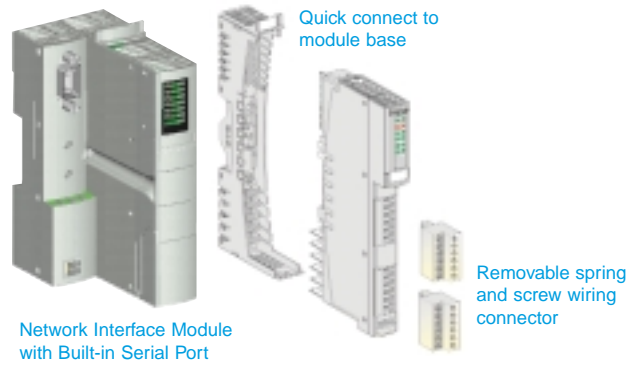
I/O modules are installed to the right of the Power Distribution Module. In total, 32 modules can be connected to a single system, whether in a single island or split between several extensions. In addition, all I/O modules can be hot swapped allowing for quick and easy maintenance without slowing production.



* Version 4 supporting Heartbeat.

End of Segment Modules

End of Segment bus extension modules allow you to add up to 6 islands of I/O to the primary segment by enabling the island bus to extend from one island to the next.



I/O Modules

- Quick assembly and disassembly
- Auto addressing
- Built-in over current protection
- Integrated LED for diagnostic of the module and I/O

Reflex Function Blocks

Reflex function blocks allow Advantys STB to perform independent, local control for time critical applications, delivering true distributed control.

- High speed response of 1-3 ms
- Easy and quick to implement with Advantys configuration software
- All basic logical functions are supported, including compares, timers, counters, and boolean

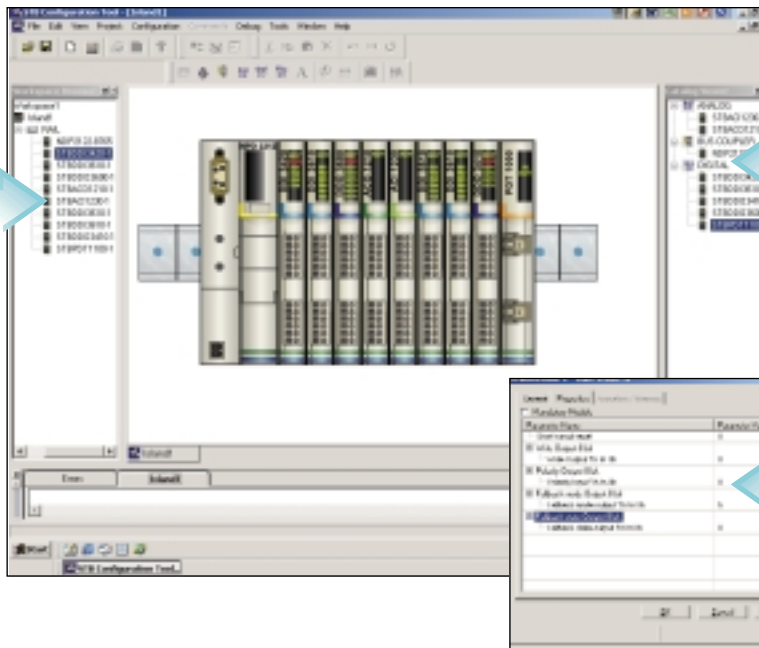
Configuration Software That's Smart and Easy to Use

Advantys configuration software provides a set of Windows-based tools that enable you to plan, model, customize, and test island bus designs and to download custom configurations to physical islands.

All Advantys STB I/O modules have factory-default parameter settings that allow them to be operational directly out of the box. You can also customize your island's operational capabilities with the configuration software, which allows you to:

- customize the operating parameters of the I/O modules
- create and implement reflex actions
- optimize island performance by assigning priority to certain modules
- designate certain application-critical modules as mandatory
- add preferred modules and/or standard CANopen devices to the island configuration
- validate that your island configuration adheres to Advantys STB design guidelines

Quickly and easily design all the parameters of your system with the intuitive graphical editor.



Island Browser Tree

The island browser tree on the left shows you all the elements that you have selected for a particular island.

Module Catalog Browser Tree

The module catalog tree on the right displays all Advantys modules available in the product range. Simply click on one, drag it into the display window, and a graphical representation of the module drops into place.

Setting parameters is a click away

Once you have configured the basic structure of your island, simply double click on a module in either the Island browser view or graphical view to set the specific parameters (ex. fallback states, range settings, or module priorities).

Advantys STB Selection Guide



Network Interface Modules

Profibus DP	STB NDP 2212	Profibus DP standard NIM
INTERBUS	STB NIB 2212	INTERBUS standard NIM
CANopen	STB NCO 1113	CANopen economy standard NIM
	STB NCO 2212	CANopen standard NIM
DeviceNet	STB NDN 2212	DeviceNet standard NIM
Ethernet	STB NIP 2212	Ethernet MB TCP/IP standard NIM
Modbus Plus	STB NMP 2212	Modbus Plus standard NIM
Fipio	STB NFP 2212	Fipio standard NIM



I/O Modules

Digital Input Modules	STB DDI 3230	24 VDC IN 2pt sink 4wire 0.2ms cfg
	STB DDI 3420	24 VDC IN 4pt sink 3wire 0.5ms cfg
	STB DDI 3610	24 VDC IN 6pt sink 2wire 1ms fixed
	STB DAI 5230	115 VAC IN 2pt 3wire fixed
	STB DAI 7220	230 VAC IN 2pt 3wire fixed
Digital Output Modules	STB DDO 3200	24 VDC OUT 2pt source 0.5A OCP
	STB DDO 3230	24 VDC OUT 2pt source 2.0A OCP
	STB DDO 3410	24 VDC OUT 4pt source 0.5A OCP
	STB DDO 3600	24 VDC OUT 6pt source 0.5A OCP
	STB DAO 8210	115/230 VAC OUT 2pt 2A
	STB DRA 3290	RELAY OUT 2pt form A/B 7A 24V coil
	STB DRC 3210	RELAY OUT 2pt form C 2A 24V coil
Analog Input Modules	STB AVI 1270	Analog V IN 2ch sgl end 12bit +/- 10V
	STB ACI 1230	Analog C IN 2ch 12bit sgl-end 0...20mA
	STB ART 0200	Analog IN 2ch 16bit iso RTD/TC/mV
Analog Output Modules	STB AVO 1250	Analog V OUT 2ch sgl end 12bit +10V
	STB ACO 1210	Analog C OUT 2ch 12bit 0...20mA
Expert Modules	STB EPI 1145	Tego Power 16in/8out interface
	STB EPI 2145	TeSys Model U 12in/8out prewiring interface
	STB EHC 3020	High speed counter 1 channel



Power Distribution/Extension Modules

Power Distribution	STB PDT 3100	24VDC PDM standard
	STB PDT 2100	115/230 VAC PDM standard
Extension Modules	STB XBE 1200	BOS Extension Module
	STB XBE 1000	EOS Extension Module
	STB XBE 2100	CANopen Extension Module



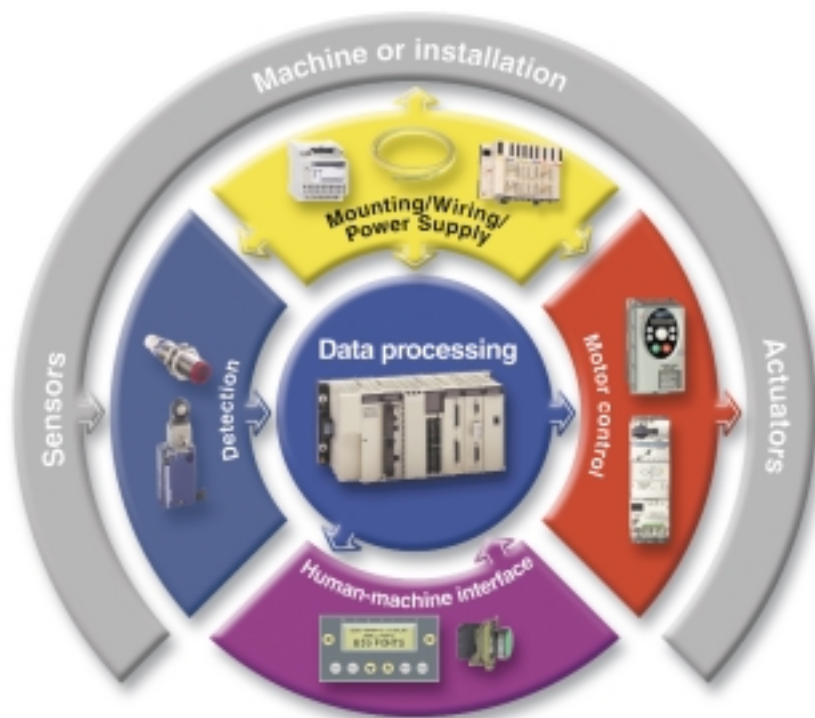
Bases		
I/O Bases	STB XBA 1000	I/O Base size 1, 13.9 mm
	STB XBA 2000	I/O Base size 2, 18.4 mm
	STB XBA 3000	I/O Base size 3, 27.8 mm
Other Bases	STB XBA 2200	PDM Base 18.4 mm
	STB XBA 2400	EOS Extension Base 18.4 mm
	STB XBA 2300	BOS Extension Base 18.4 mm
Configuration Software		
Configuration S/W	STB SPU 1000	Configuration Software w/cable
Connector Kits		
Connector Kits	STB XTS 1100	6pt I/O Screw Connector Kit (qty 20)
	STB XTS 2100	6pt I/O Spring Connector Kit (qty 20)
	STB XTS 1110	5pt I/O Screw Connector Kit (qty 20)
	STB XTS 2110	5pt I/O Spring Connector Kit (qty 20)
	STB XTS 1120	2pt I/O Screw Connector Kit (qty 10)
	STB XTS 2120	2pt I/O Spring Connector Kit (qty 10)
	STB XTS 1130	2pt PDM Screw Connector Kit (qty 10)
	STB XTS 2130	2pt PDM Spring Connector Kit (qty 10)
	STB XTS 1111	5pt DeviceNet Screw Connector
	STB XTS 2111	5pt DeviceNet Spring Connector
	STB XTS 2150	High Speed Counter Connector
Accessories		
Accessories Description	STB XMP 1100	Termination Plate (spare)
	STB XMP 4440	Memory Card 32K
	STB XMP 6700	Marking Label Sheet (pack of 50)
	STB XCA 1001	0.3m Bus Extension Cable
	STB XCA 1002	1.0m Bus Extension Cable
	STB XCA 1003	4.5m Bus Extension Cable
	STB XCA 1004	10m Bus Extension Cable
	STB XCA 1006	14m Bus Extension Cable
	STB XMP 7700	Module Keying Pin Kit (qty 60)

(Some accessories not shown — see product catalog for complete listing.)

Schneider Electric

Compatibility to ensure performance at no extra cost

The wide range and scope of industrial automation products from Schneider means you are assured of compatible, affordable solutions.



A single partner, a world presence

Permanent, global availability

With more than 5 000 sales offices in 130 countries, you will always find a complete range of products to meet your needs that conform to local standards.

Technical support wherever you are

Schneider provides technical assistance around the world, with technicians at your service to explore customized solutions.



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